

ABSTRACT

A chemical hydride hydrogen generation system and an energy system incorporating the same are provided. The hydrogen generation system has: a storage means for storing a chemical hydride solution; a reactor containing a catalyst; and a pump for supplying the chemical hydride solution from the storage means to the reactor so that the chemical hydride solution reacts to generate hydrogen in the presence of the catalyst. The hydrogen is supplied to a fuel cell stack. Additionally, a heat transfer circuit is provided including a heat transfer fluid that is circulated through the cooling channels of the fuel cell stack to effect heating thereof on startup, and cooling once the operating temperature is reached.